RackSwitch G8124

10G SFP+ Low Latency Switch

Product Brief

The BLADE Network Technologies' RackSwitch™ G8124 is a 10GbE switch specifically designed for the data center, providing a Virtual, Cooler and Easier network solution.

The RackSwitch G8124 is "Virtual"- for the first time providing rack-level virtualization of networking interfaces for a rack full of server and storage systems – decoupling the scaling of networking and computing capacity via on-switch SmartConnect™ software. Patent-pending VMready™ extensions enable movement of virtual machines—providing matching movement of VLAN assignments, ACLs, and other networking and security settings. Using VMready, the trusted zone for the virtual machine is never compromised.

The RackSwitch G8124 is "Cooler"- implementing server-like directional cooling to maximize datacenter layout and provisioning. Its superior airflow design complements the hot-aisle and cold-aisle data center cooling model.

The RackSwitch G8124 is "Easier" with server-oriented provisioning via point-and-click management interfaces, along with BLADEHarmony™ Manager for updating large groups of switches.

The low latency offered by the RackSwitch G8124 makes it ideal for latency sensitive applications such as clusters and financial applications. And the G8124 supports the newest protocols – including Converged Enhanced Ethernet (CEE) for support of Fibre Channel over Ethernet (FCoE).

The RackSwitch G8124 offers 24 10 Gigabit Ethernet ports in a 1 RU footprint. Designed with top performance in mind, the RackSwitch G8124 provides line-rate, high-bandwidth switching, filtering, and traffic queuing without delaying data, and large data-center grade buffers to keep traffic moving. Redundant power and fans along with numerous high availability features ensure that the RackSwitch G8124 is always available for business-sensitive traffic.

Figure 1 RackSwitch G8124

Product Benefits

- 24x SFP+ ports that operate at 10GbE or Gigabit speeds
- Optimal for High-Performance Computing or other applications requiring the highest bandwidth and lowest latency
- All ports non-blocking 10GbE with deterministic latency of fewer than 700 nanoseconds.
- Unlike most rack equipment that cools from side to side, the RackSwitch G8124 has two airflow options (front-to-rear or rear-to-front) which allow for flexible mounting of the switch in a server rack or datacom rack.

- Variable speed fans automatically reduce power consumption
- The switch also has a special mounting kit, allowing it to be mounted vertically or horizontally in a rack.
- Seamless, standards-based integration into existing Cisco® and other networks helps reduce downtime and learning curve.

Business Benefits

- **High performance** - The 10G Low Latency Switch provides the best combination of extremely low latency, non-blocking line-rate switching and ease of management.
- **Reduced TCO** - SFP+ ports and SFP+ Direct Attach (twinax) Cables provide the flexibility needed for 10GbE networking at a very affordable price.
- **Deployment Flexibility -** Front-to-rear cooling for server racks and Rear-to-front cooling for rear-facing applications like storage enclosures.
- **Better Cooling** - The RackSwitch G8124 improves cooling efficiency which reduces air conditioning power consumption and helps avoid potential reliability concerns as a result of the heat issues associated with side cooled switches.
- **Interoperability -** Software is based on Internet standards for optimal interoperability with Cisco® or other vendors' networks.
- **Easy Server Provisioning -** ServerMobility™ enables simple bare-metal provisioning of servers and repurposing of standby servers.

RackSwitch G8124 at a Glance

Performance

- 100% Line rate performance
- Latency under 700 nanoseconds
- 480 Gbps non-blocking switching throughput (full duplex)

Hardware Features

Models

- RackSwitch G8124F (for front-to-rear cooling)
- RackSwitch G8124R (for rear-to-front cooling)

Interface Options

- 24 10G SFP+ fiber connectors
- 2x10/100/1000 Ethernet RJ45 ports for Management
- 1 mini-USB Console port for Management
- Server-like port orientations enables short and simple cabling

Dimensions

- 17.3" wide, 15" deep, 1 RU high

Weight:

- 6.40kg (14.08 lb)

Rack Installation Kit

- Versatile 4-post mounting options for 19" server rack or datacom rack
- Can be mounted vertically or horizontally

LEDs

- System LEDs to indicate status
- LEDs to indicate Master/Member

Airflow

- Front-to-rear or rear-to-front cooling
- Redundant variable speed fans for reduced power draw

Power

- The AC-Powered G8124 has dual load-sharing internal power modules, 50-60Hz, 100-240 VAC auto-switching per module.
- The DC Powered G8124 has dual load-sharing internal DC-DC power modules, input voltage ranging from 42VDC to 60VDC per module.
- The Nominal Power for AC or DC G8124 models ranges from 115W to 168W depending on the speed of the port (1G/10G), type of transceivers (SR or DAC) and number of active ports.

Environmental Specifications

Temperature

- Ambient operating -10ºC to +40ºC

Relative humidity

- Non-condensing, operating 10 to 90%

Altitude

- Operating 3,050 m (10,000 feet)

Acoustic noise

- Less than 65dB

Heat dissipation

- 1100 BTU/hour (maximum)

Software Features

Security

- RADIUS
- TACACS+
- SCP
- Wire Speed Filtering: Allow and Deny
- SSH v1, v2
- HTTPS Secure BBI
- Secure Interface Login & Password
- MAC address move notification

VLANs

- Port-based VLANs
- 4096 VLAN ids supported
- 1k VLANs (802.1Q)
- Private VLAN Edge

Trunking

- LACP
- Static Trunks (EtherChannel)
- Configurable Trunk Hash algorithm

Spanning Tree

- Multiple Spanning Tree (802.1s)
- Rapid Spanning Tree (802.1w)
- PVRST+
- Fast Uplink Convergence
- BPDU guard

Quality of Service

- QoS 802.1p (Priority Queues)
- DSCP Remarking
- Metering

Routing Protocols

- RIP v1/v2
- OSPF
- BGP

High Availability

- Uplink Failure Detection
- HotLinks™
- Virtual Router Redundancy support (VRRP)

Multicast

- IGMP Snooping v1, v2 and v3

Monitoring

- Port Mirroring
- ACL-based mirroring
- sFlow®

Management Features

Clients

- BLADEHarmony Manager
- isCLI (Cisco-like)
- Scriptable CLI
- Browser-based client or telnet
- ServerMobility™

Standard Protocols

- IPv6
- SNMP v1, v2c and v3
- RMON
- Secondary NTP Support
- Accept DHCP
- DHCP Relay
- LLDP
- 16K MAC Table
- 9K Jumbo Frames
- 802.3X Flow Control

Upgrades

- Upgrade firmware via serial or TFTP
- Dual software images

Ordering Information

Model Number	Description
Switches	
BN-8124F-BDL	G8124 24-port 10GbE Switch with Front-to-Rear airflow with • Two power cords • Rack mount ears • Serial cable
BN-8124R-BDL	G8124 24-port 10GbE Switch with Rear-to-Front airflow • Two power cords • Rack mount ears • Serial cable
Pluggable Optics	
BN-CKM-SP-SR	SFP+ 10GBase-SR Short Range Transceiver
BN-CKM-SP-LR	SFP+ 10GBase-LR Long Range Transceiver
BN-CKM-S-T	SFP 1000Base-T Copper Transceiver
BN-CKM-S-SX	SFP 1000Base-SX Optical Transceiver
BN-CKM-S-LX	1000BASE-LX transceiver
Direct Attach Cables (DAC)	
BN-SP-CBL-1M	SFP+ Copper Direct Attach Cable (1 meter)
BN-SP-CBL-3M	SFP+ Copper Direct Attach Cable (3 meters)
BN-SP-CBL-5M	SFP+ Copper Direct Attach Cable (5 meters)
BN-SP-CBL-8M5	SFP+ Copper Direct Attach Cable (8.5 meters)
Rail Kits	
BN-4POST-RLS	19" EIA 4-Post Rail Kit

Regulatory Compliance

Country	Agency
Austria	CE
Belgium	CE
Canada	CSA, ICES-003
China	CCC
Denmark	CE
Finland	CE
France	CE
Germany	TUV-GS, CE
Italy	CE
Japan	VCCI (A)
Korea	MIC (RRL)
Luxembourg	CE
Mexico	NOM-NYCE
Netherlands	CE
Poland	CE
Portugal	CE
Slovakia	CE
Slovenia	CE
Spain	CE
Sweden	CE
Switzerland	CE
U.K., Ireland	CE
United States	FCC (A), UL

Services

BLADE Network Technologies' BLADEHarmony suite of services provides operational support and consulting for planning, deploying and managing your datacenter networking infrastructure. Service and support are available through certified partners. Contact mailto:services@bladenetwork.net or visit http://www.bladenetwork.net/services.

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